

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 10-15 and 18-22 are presently active in this case. The present Amendment amends Claim 10; and adds dependent Claims 19-22. No new matter is added. Support for the changes to Claim 10 and the new claims can be found in the disclosure as originally filed, for example at page 2, lines 32-35; at page 4, lines 31-33 and at page 6, lines 14-31.

The outstanding Office Action rejected Claims 10-15 under 35 U.S.C. § 103(a) as unpatentable over Mount (U.S. Patent No. 6,568,926) in view of Jorgensen (U.S. Patent No. 4,336,000). Claims 10-15 were rejected under 35 U.S.C. § 103(a) as unpatentable over Jorgensen in view of Mount. Claims 10, 14 and 15 were rejected under 35 U.S.C. § 103(a) as unpatentable over Lemaire (U.S. Patent No. 5,421,295) in view of Jorgensen further in view of Mount. Claim 18 was rejected under 35 U.S.C. § 103(a) as unpatentable over Lemaire in view of Jorgensen further in view of Mount.

In order to clarify Applicant's invention, Claim 10 is amended to recite that the high resolution linear actuator includes a motor driven by a controller, that the shape of the seal is configured to minimize non-linearity of the volume dosed as a function of movement of the piston, and that the controller is configured to drive the motor so as to remove a remaining non-linearity of the volume dosed as a function of movement of the piston. The applied prior art references, individually or in combination, do not disclose these features. Accordingly, in light of the present Amendment, Applicant respectfully requests reconsideration of the rejections of the claims under 35 U.S.C. §103(a).

The rejections are based on Mount for its teaching of a seal. However, Mount fails to disclose a seal configured to minimize non-linearity of the volume dosed as a function of

movement of a piston, as now required by amended independent Claim 10. The other applied references also fail to disclose this limitation.

The rejections are also based on Jorgensen for its teaching of a linear actuator. However, Jorgensen fails to disclose a controller configured to drive a motor of a linear actuator so as to remove a remaining non-linearity of the volume dosed as a function of movement of the piston, as now required by amended independent Claim 10. The other applied references also fail to disclose this limitation.

Further, Jorgensen merely mentions that the piston “is moved a very short length, for example 1 mm” in a certain step of a venting procedure (see Jorgensen, at column 7, line 40). Jorgensen does not give any reason for choosing this particular distance. No further details about the accuracy of the motor/piston are provided (see Jorgensen at column 5, lines 42–61 for details about the motor). Thus, the prior art fails to disclose the claimed limitations of Claims 19-20: that the actuator has an accuracy of less than or equal to 0.1 mm (Claim 19); and an accuracy of less than or equal to 50  $\mu\text{m}$  (Claim 20). The limitations of Claims 21-22 are also not disclosed by the applied prior art in combination with the limitations of Claim 10.

All claim limitations must be considered when analyzing the non-obviousness of an invention.<sup>1</sup> In the present case, even if the combination of Jorgensen, Mount and Lemaire is assumed to be proper, the combination fails to disclose the claimed invention. Accordingly, Applicant respectfully traverses, and requests reconsideration of, the obviousness rejection based on these references.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 10-15 and 18-22 is earnestly solicited.

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<sup>1</sup> See MPEP 2143.03

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Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

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